Potamogeton spp. - Ceratophyllum spp. Midwest Herbaceous Vegetation

COMMON NAME	Pondweed species - Coontail species Midwest Herbaceous Vegetation
SYNONYM	Midwest Pondweed Submerged Aquatic Wetland
PHYSIOGNOMIC CLASS	Herbaceous Vegetation (V)
PHYSIOGNOMIC SUBCLASS	Hydromorphic rooted vegetation (V.C)
PHYSIOGNOMIC GROUP	Temperate or subpolar hydromorphic rooted vegetation (V.C.2)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (V.C.2.N)
FORMATION	Permanently flooded temperate or subpolar hydromorphic rooted vegetation (V.C.2.N.a)
ALLIANCE	POTAMOGETON SPP. - CERATOPHYLLUM SPP. - ELODEA SPP. PERMANENTLY FLOODED HERBACEOUS ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 3

USFWS WETLAND SYSTEM PALUSTRINE

RANGE

Isle Royale National Park

This community is common in interior lakes, and occasionally occurs on very protected, quiet water bays of Lake Superior.

Globally

This associations is found in North Dakota, South Dakota, Minnesota, Iowa, Wisconsin, Michigan, Illinois, Indiana, Ohio, and Ontario.

ENVIRONMENTAL DESCRIPTION

Isle Royale National Park

This community occupies permanently flooded lake beds with substrates of sand, muck, or clay. This is a submerged aquatic community; nearly all the vegetation is under water.

Globally

The major environmental controls on submerged aquatic vegetation, as noted by Curtis (1959), are water depth (as it relates to light intensity), water chemistry, water movement, and nature of the substrate. Various combinations of these factors can interact in a variety of ways to influence the local composition of the community. As a result, a single lake may contain a number of relatively homogeneous stands, each with a different species makeup, depending on depth, nature of adjoining shoreline, degree of protection from waves, etc. Water chemistry may be one of the few constants. Assessment of water conductivity and alkalinity are two measured parameters that can provide some understanding of the influence of water chemistry on species composition. Curtis (1959) also summarizes a study by Swindale and Curtis (1959).

MOST ABUNDANT SPECIES

Isle Royale National Park

Stratum	Species
Submersed	*Chara* spp., algae, *Utricularia* spp., *Potamogeton* spp., *Sparganium fluctuans*

Globally

Stratum	Species
Submersed	*Potamogeton* spp., *Ceratophyllum* spp. *Myriophyllum* spp., *Utricularia* spp.

CHARACTERISTIC SPECIES

Isle Royale National Park

Chara spp., *Utricularia* spp., *Potamogeton* spp., *Sparganium fluctuans*

Globally

Potamogeton spp., *Ceratophyllum* spp., *Myriophyllum* spp., *Chara* spp., *Utricularia* spp.

VEGETATION DESCRIPTION

Isle Royale National Park

At Isle Royale NP, Midwest pondweed submerged aquatic wetland is a deepwater wetland dominated by submerged aquatic vegetation. The most abundant vegetation consists of submerged aquatics such as *Chara* spp., algae, *Utricularia*

spp., and *Potamogeton* spp.; *Sparganium fluctuans* is a common floating leaved aquatic plant (average 10 % cover); *Eleocharis smallii* and *Equisetum fluviatile* are the most abundant emergent aquatic plants (each averaging < 5% cover).

Globally

Based on information in the northern parts of the Midwest, several vegetation subgroups can be recognized that may be separate associations. Subgroup A is a shallow (<50 cm), sparsely vegetated, open water marsh found on sand, or organic and mineral material trapped in rocky bottoms. Stands are often exposed to wave action and found in oligotrophic lakes. Dominant plants often have basal rosettes that are resistant to wave action. Typical species include *Elatine minima, Eriocaulon aquaticum, Gratiola aurea, Isoetes echinospora, Isoetes macrospora, Juncus pelocarpus*, and *Lobelia dortmanna* (Curtis 1959, Harris *et al.* 1996). Subgroup B is a shallow (<50 cm) open water marsh with emergent cover <25% and floating-leaved aquatics >25%. Substrate is a mineral soil (often sand), boulders, or a mixture of sedimentary peat and fine mineral soil. Stands can be exposed to waves or are in stream channels. Stands may often be dominated by a single species. Typical dominants include *Eleocharis acicularis, Myriopyllum* spp.*, Potamogeton amplifolius, Potamogeton gramineus, Potamogeton praelongus, Potamogeton robbinsii, Sparganium fluctuans*, and *Utricularia vulgaris*. Subgroup C includes open water marsh with emergent cover < 25% and floating leaved aquatics >25%. Substrate is sedimentary peat and stands are often found in sheltered bays of lakes and streams which do not have high wave energy. Stands may often be dominated by a single species. Typical dominants include *Ceratophyllum demersum, Lemna* spp.*, Myriophyllum sibiricum, Myriophyllum verticillatum, Potamogeton natans, Potamogeton pectinatus, Potamogeton richardsonii, Potamogeton zosteriformis, Ranunculus aquatilis, Utricularia vulgaris*, and *Vallisneria americana* (Curtis 1959, Harris *et al.* 1996).

OTHER NOTEWORTHY SPECIES

Isle Royale National Park

Information not available.

CONSERVATION RANK G5Q.

DATABASE CODE CEGL002282

MAP UNITS 49

COMMENTS

REFERENCES

Curtis, J. T. 1959. The vegetation of Wisconsin: An ordination of plant communities. Univ. of Wisconsin Press, Madison. 657 p.

Harris, A. G., S. C. McMurray, P. W. C. Uhlig, J. K. Jeglum, R. F. Foster, and G. D. Racey. 1996. Field guide to the wetland ecosystem classification for northwestern Ontario. Ont. Minist. Nat. Resour., Northwest Sci. Tech. Field Guide FG-01.Thunder Bay, Ont. 74 p.

Swindale, Delle N. and Curtis, J. T. 1957. Phytosociology of the larger submergered plants in Wisconsin lakes. Ecology 38:397-407.